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ILLINOIS COMMERCE COMMISSION

COMMONWEALTH EDISON COMPANY :

No. 00-0361

Petition for Approval of a Revision to
Decommissioning Expense Adjustment Rider to
Take Effect on Transfer of ComEd's Generating
Stations :

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INITIAL BRIEF OF

COMMONWEALTH EDISON COMPANY

(Public Version/Proprietary Material Redacted)

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I. Overview

A. ComEd's Proposal Is Just And Reasonable

ComEd has made a comprehensive proposal under which ratepayers will contribute \$120.9333 million per year for six years toward the costs of decommissioning the company's nuclear stations, and, after those payments are made, customers will have no further responsibility for decommissioning costs. Approval of ComEd's proposal will provide certainty for ratepayers, free them from the obligation to make decommissioning payments that are scheduled to continue from 2007 through 2027, and eliminate the significant risk that customers will be required to pay substantially increased costs in the future. Those increased costs result from uncertainty over such critical matters as the availability and escalating cost of low level radioactive waste disposal, unreimbursed spent fuel storage costs, expanded decommissioning work scope, more rapid rates of general inflation and poorer-than-expected investment performance.

ComEd's proposal also provides the level of decommissioning funding necessary to enable a new generating company ("Genco") to acquire ComEd's nuclear stations and assume the liability and risks associated with decommissioning the stations. Absent approval of the proposal, Genco will be unable to complete the acquisition and customers will not enjoy the benefits that arise from separating ComEd's nuclear generation assets from the company's transmission and distribution business, insulating ratepayers from many of the risks of the generation business and fostering the development of a competitive generation marketplace in ComEd's service territory.

The evidence overwhelmingly supports ComEd's proposal. Cost estimates prepared by the leading experts in the field, TLG Services, Inc. ("TLG") establish that the cost to

decommission ComEd's nuclear stations in 2000 dollars total \$5.6 billion – approximately \$3.1 billion more than the amounts now held in the decommissioning trusts. ComEd Ex. 1 (LaGuardia Direct) at 7-8, Schedule TSL-1; ComEd Ex. 2 (Berdelle Direct) at 3. Under any reasonable assumptions, decommissioning collections in excess of those requested under ComEd's proposal will be necessary to fund that shortfall. ComEd Ex. 8 (Berdelle Rebuttal) at 3-6. No decommissioning cost estimates were prepared by any of the witnesses who testified in favor of Intervenors or Staff.

ComEd expert witness Randall Speck, who negotiated decommissioning cost resolution agreements on behalf of the Maine and Connecticut Public Utility Commissions, demonstrated that the risk of future increases in decommissioning costs is very significant and far outweighs the benefits of any of the favorable events that Intervenor witnesses argue might take place. ComEd Ex. 4 (Speck Direct) at 8-18; ComEd Ex. 12 (Speck Rebuttal) at 18-36. Joseph Callan, Executive Director for Operations for the Nuclear Regulatory Commission ("NRC") until October, 1998, addressed one of the events mentioned by Intervenors – possible extension of the NRC licenses for ComEd's nuclear units. Although Intervenors argue that license extensions are likely at Dresden and Quad Cities Stations and will reduce decommissioning costs, Mr. Callan explained that the license renewal process is lengthy and uncertain, particularly for boiling water reactors like Dresden and Quad Cities. Boiling water reactors have no track record of license renewals or extended operation beyond their original license period. ComEd Ex. 9 (Callan Rebuttal) at 4-5. Moreover, even if license renewals are sought and granted, there is still a significant chance that a station will be retired early for safety, technical, business or economic reasons, as evidenced by the fact that ten nuclear units have shutdown prematurely since 1989, whereas only two license extensions have been granted and no unit has yet operated to the end of

its licensed life, much less beyond it. ComEd Ex. 9 (Callan Rebuttal) at 8-9. And license extensions could actually increase decommissioning costs if trust fund earnings do not outpace the decommissioning cost escalation rate. ComEd Ex. 7 (Speck Supp. Direct) at 6-7.

ComEd Vice President and Comptroller, Robert Berdelle, described the detailed financial analysis supporting ComEd's proposal, demonstrating that the interests of ratepayers are well served by a cutoff of decommissioning payments after six years of contributions at the \$120.9333 million level. Use of the actual 7.81% decommissioning cost escalation rate called for by the formula approved by the Commission would result in much higher payments. ComEd Ex. 8 (Berdelle Rebuttal) at 8-9; Berdelle, Tr. 1139. Even use of a 4.73% rate, which results in the \$120.9333 million contribution level for 2001 through 2006, would mean higher payments because it requires substantial contributions from 2007 through 2027, which, under ComEd's proposal, ratepayers will not be required to fund. ComEd Ex. 6 (Berdelle Supp. Direct) at 9. And quite apart from the cost escalation rate, ComEd's proposal shields customers from very significant additional payments that could well be required for spent fuel storage costs, access to low level waste disposal facilities or costs resulting from plant shutdowns. ComEd Ex. 8 (Berdelle Rebuttal) at 7-9, 10-13.

Mr. Berdelle also addressed four issues that have been raised by Staff, providing assurances that eliminate any cause for concern about the merit of ComEd's proposal. ComEd Ex. 8 (Berdelle Rebuttal) at 15-18. First, ComEd has agreed to make the proposal asymmetrical, obligating Genco to bear all of the risk of higher costs, but committing it to refund to ratepayers any funds that remain in the decommissioning trusts in the unlikely event that there is a surplus after all of the stations are decommissioned. This commitment to accept all of the downside and forego whatever upside may exist removes any concern that, if extremely favorable events occur,

Genco will somehow benefit unfairly at the expense of ratepayers. Second, ComEd has agreed to the inclusion of a requirement in the trust agreements governing Genco's use of decommissioning funds that, to the extent money is available after radiological decommissioning is completed, non-radiological decommissioning will be performed. Third, ComEd has agreed to a condition making collection of \$120.9333 million from ratepayers in 2005 and 2006 dependent upon ComEd and Genco reaching agreement on a market price and purchasing ComEd's requirements up to the available capacity of the nuclear stations in those years. This condition assures that decommissioning payments will only be made while ComEd's customers are receiving electricity from the plants. Finally, ComEd has agreed to the strongest possible binding condition in the Commission's order, which ComEd will be required to accept in writing, forever waiving any right to seek additional decommissioning collections after the expiration of the six-year decommissioning collection period.

In summary, the proposal offers customers substantial benefits. The advantages of the resolution and its fairness to ratepayers have been recognized by former members of the Commission who are well-acquainted with the risks posed by ComEd's continued ownership of the nuclear stations and exposure to decommissioning cost increases. Former Commissioner Calvin Manshio endorses the proposal, stressing the "opportunity to shift the risk of future rate increases in decommissioning costs from ratepayers and to stimulate generation competition." ComEd Ex. 11 (Manshio Rebuttal) at 2. Former Chairman Dr. Phillip O'Connor emphasizes that ComEd's proposal promotes "the goals of enhancing the environment for customer choice and market competition." NewEnergy Midwest Ex. 1 (O'Connor Direct) at 2. Even CUB witness Biewald acknowledges that ComEd's proposal represents "an excellent step forward in decommissioning policy." Biewald, Tr. 1372.

After reviewing the evidence, there is only one reasonable conclusion. The Commission should approve ComEd's proposal and make its benefits available to ratepayers.

Although the record strongly supports the six-year, \$120.9333 million funding level proposed in the Petition, which translates into a decommissioning charge of .141 cents per kilowatt hour, ComEd Ex. 2 (Berdelle Direct) Attachment A, ComEd recognizes that Staff has suggested a lower annual recovery rate. Staff Ex. 2 (Riley Direct) at 1-2. Under Staff's proposal, the present Rider 31 decommissioning charge of .102 cents per kilowatt hour, Berdelle Tr. 1209-1210, would not be increased at all, but would actually be reduced to .092 cents per kilowatthour. ComEd respectfully submits that a reduction of this magnitude cannot be justified, and approval of Staff's proposal would eliminate any chance of achieving the benefits that would result from a transfer of the nuclear stations to Genco. Id. at 1114.

The evidence weighing against Staff's proposal is reviewed in detail in this brief. However, if the Commission were to determine that the decommissioning charge for purposes of ComEd's proposal should be less than the .141 cents per kilowatt hour requested by ComEd, the company has indicated that it would consider whether such a reduction would enable it to proceed with the Genco transaction.

Any approval of less than .141 cents per kilowatt hour rate would still have to authorize recoveries for the six year period proposed in ComEd's petition. Staff's suggested four-year funding period could not provide a basis for a reasonable resolution of the decommissioning funding question. The six-year decommissioning recovery period is an essential element of ComEd's proposal that cannot be changed without fundamentally altering the economic risk-sharing on which the proposed resolution is based. A six-year recovery period also corresponds to the duration of the power purchase agreement, which is certain to be in effect for the first four

years and is extremely likely to be in force for the remaining two-year period as well. In response to the objections of some parties that ComEd might not be purchasing power from Genco in 2005 and 2006, ComEd has agreed that no decommissioning payments will be due in 2005 and 2006 unless purchases are being made under the power purchase agreement in those years. It would be completely inappropriate to now use that concession as the basis for an argument that the structure of ComEd's proposal necessitates either a four-year funding period or a below-market price in 2005 and 2006 reflecting a downward adjustment to offset the decommissioning recoveries that will be allowed in those years. ComEd's proposal has always been premised on six years of decommissioning recoveries and six years of purchases under the power purchase agreement at fixed prices for four years and true market value prices for the final two years. The assurances that ComEd has now provided that there will be six years of purchases under the power purchase agreement provide no basis for limiting the necessary decommissioning recoveries to only four of the six years.

B. ComEd's Proposal Is Authorized By The Law

There is no legal obstacle to approval of ComEd's proposal, which is authorized by the Public Utilities Act, including sections 9-201.5 and 16-114. Section 9-201.5 provides that the Commission may authorize charges to customers for the costs of decommissioning. 220 ILCS 5/9-201.5(a). Although Section 9-201.5(b) provides that the notice and filing requirements of Section 9-201 dealing generally with changes in rates do not apply to decommissioning rates, decommissioning rates, like all other rates, must be just and reasonable. 220 ILCS 5/9-201(c). The record establishes that ComEd's proposed rate is just and reasonable. The best evidence of the cost of decommissioning ComEd's nuclear stations supports a significantly higher rate, and

ComEd's proposal to accept lower recoveries than warranted by the evidence is clearly just and reasonable.

Decommissioning rates established under section 9-201.5 may be in effect for a six-year period. 220 ILCS 5/9-201.5(d). As in this case, revenues collected under such decommissioning rates may be used "to reduce the amounts to be charged under such rates or tariffs in the future." 220 ILCS 5/9-201.5(a). That is exactly the effect that the payment to Genco of \$120.9333 million for six years will have. It will reduce to zero the amounts to be charged to customers for decommissioning in 2007-2027 and any subsequent years until completion of decommissioning at all of ComEd's nuclear stations.

Use of an agreement between ComEd and Genco, such as the Contribution Agreement under which Genco accepts the responsibility for decommissioning the stations, is also authorized by the Act. Specifically, section 16-114 of the Public Utilities Act permits recovery of decommissioning costs for "each utility ... having responsibility as a matter of contract ... for decommissioning costs as defined in Section 8-508.1." Section 8-508.1(a)(2) defines "decommissioning costs" to include "all reasonable costs and expenses incurred" Section 8-508.1(c)(3)(i) permits the existing assets in the decommissioning trusts to be disbursed to Genco for deposit into Genco's decommissioning trusts because doing so will, in part, "satisfy the liabilities of [ComEd] ... for nuclear decommissioning costs...." 220 ILCS 5/8-508.1(3)(i). Section 8.508.1(c)(3)(iii) recognizes that, when a public utility "sells or otherwise disposes of its direct ownership interest ... in a nuclear power plant....," the utility may arrange for "another entity" to assume the public utility's "liability for future decommissioning," which results in the selling utility retaining responsibility as a matter of contract for decommissioning costs.

Therefore, both the use of existing trust fund assets and contracting for six years of future decommissioning payments are authorized by the Act.

II. Costs Of Decommissioning, Overall And Plant Specific

The record shows that ComEd's proposal in this proceeding is based upon fundamentally sound and reasonable estimates of the costs to decommission the Stations. The decommissioning cost studies underlying ComEd's proposal were prepared by TLG, an industry leader in making such estimates. ComEd's estimates of radiological decommissioning costs in the present proceeding are based upon the estimates previously approved by the Commission in Docket 97-0110 and updated by TLG in Docket 99-0115. The site-specific cost estimates for radiological decommissioning of ComEd's thirteen nuclear units total \$4.682 billion, expressed in 1996 dollars.

In addition to the radiological decommissioning cost estimates, ComEd also presented a thorough study of the non-radiological decommissioning costs that will have to be incurred at each of its nuclear stations as a part of the decommissioning process. ComEd Ex. 1 (LaGuardia Direct) at 19-20, Sch. TSL-1, Docket 99-0115. This study, also prepared by TLG, provides a station-by-station review of the costs that will be incurred for necessary non-radiological decommissioning. The analysis was conducted using very conservative assumptions designed to ensure that the estimate of site restoration costs included no expenses for removal of any structure that could be re-used. If there was any possibility that a building or facility might possibly be re-useable, the cost of removing it was excluded from the non-radiological decommissioning estimate. Berdelle, Tr. 1104, 1106, Docket 99-0115; LaGuardia, Tr. 728-29, 735-36, Docket 99-0115.

No party has presented any evidence that TLG's cost estimates for radiological or non-radiological decommissioning are inaccurate or unreasonable in any way. See Biewald, Tr. 214, lines 13-15, ICC Docket 99-0115 ("I'm not contesting the company's estimate of decommissioning costs in this case"). In Docket 97-0110, the Commission found that "the site specific decommissioning cost estimates which TLG developed are fully in accord with existing literature" and adopted those estimates as the basis for its decision. The same conclusion should be reached in this proceeding, and the TLG estimates of the costs of decommissioning ComEd's nuclear units should be relied upon by the Commission in this proceeding in concluding that ComEd's decommissioning resolution proposal is reasonable and should be approved.

A. ComEd's Decommissioning Cost Estimates Were Prepared By The Pre-Eminent National Expert, TLG Services, Inc.

ComEd engaged TLG to estimate the costs of decommissioning its thirteen nuclear units. TLG is highly qualified to provide such estimates. TLG's president, Thomas LaGuardia, who was responsible for preparing and presenting the estimates, has vast experience and is a foremost expert in his field. The record shows that Mr. LaGuardia's background and experience includes the following:

- Served as principal investigator for the groundbreaking 1976 Atomic Industrial Forum ("AIF") decommissioning study; co-authored the first decommissioning handbook for the DOE, which reported then-current decommissioning technology as of 1980; co-authored the 1986 guidelines for decommissioning cost estimates for the AIF National Environmental Studies Project; and served as principal investigator for the NRC's 1986 study evaluating the costs and benefits of techniques to reduce occupational exposure and waste volume from decommissioning. ComEd Ex. 1 (LaGuardia Direct) at 2-3.
- TLG has prepared site-specific decommissioning cost-studies for more than 85 % of the nuclear plants in the United States, all of the operating commercial nuclear units in Canada, and one unit in Japan. Id. at 6. TLG has also been extensively

involved in actual decommissioning activities on many different nuclear decommissioning projects. Id. at 5.

- Decommissioning cost estimates prepared by Mr. LaGuardia and TLG have been reviewed and accepted by the Nuclear Regulatory Commission, the Federal Energy Regulatory Commission and public utility commissions throughout the country, including this Commission. Id. at 7.

Mr. Biewald [CUB's expert] testified that Mr. LaGuardia's estimates have become more detailed and rigorous in the past 15 years. Biewald, Tr. 148, Docket 99-0115. TLG's judgments have been relied upon by utilities, id. at 195, and many of his decommissioning estimates have been adopted by regulators for use in rate-making. Id. at 196. Mr. Schlissel, another CUB witness, testified that he generally finds Mr. LaGuardia's estimates to be accurate, Schlissel, Tr. 322, Docket 99-0115, and he has not challenged Mr. LaGuardia's analysis on the issue of his estimates in this case. Id.

B. ComEd's Site-Specific Radiological Decommissioning Cost Estimates Are Reasonable

No party has challenged the reasonableness of ComEd's cost estimates for radiological or non-radiological decommissioning. Nevertheless, it is worth reviewing some of the numerous reasons proven in the record why the Commission should have confidence in the estimates presented in this proceeding. With respect to the total radiological decommissioning cost estimate of \$4.682 billion, the record shows that:

- TLG reviewed the estimates previously approved by the Commission in Docket 97-0110 and updated for presentation in Docket 99-0115, and found that the estimates are reasonable. ComEd Ex. 1 (LaGuardia Direct) at 8.
- In particular, the estimates for ten of ComEd's nuclear units – Dresden Units 2 and 3, Quad Cities Units 1 and 2, LaSalle Units 1 and 2, Byron Units 1 and 2 and Braidwood Units 1 and 2 – are unchanged from their last approval by the Commission in Docket 97-0110. Mr. LaGuardia confirmed on the record in this proceeding that these cost estimates are reasonable and that no change to these cost estimates is warranted at this time. ComEd Ex. 1 (LaGuardia Direct) p. 8; ComEd Ex. 1 (LaGuardia Direct) at 9, Docket 99-0115. The cost estimates for

these ten nuclear units account for approximately \$3.595 billion of the \$4.862 billion of ComEd's total estimated radiological decommissioning costs, expressed in 1996 dollars. ComEd Ex. 1 (LaGuardia Direct), Sch. TSL-1.

- The estimates submitted in this proceeding for Dresden Unit 1 and Zion Units 1 and 2 were appropriately updated in 1999 to reflect changed circumstances. ComEd Ex. 1 (LaGuardia Direct) at 18, Docket 99-0115.
- With respect to Dresden Unit 1, the cost estimates reflect changes since the estimate approved in Docket 97-0110 consisting of (i) a reduction in the quantity of contaminated soil to be shipped off site at the time of decommissioning, and (ii) an increase to reflect actual costs of dry cask storage equipment. The net effect of these changes is to reduce the estimated Dresden Unit 1 radiological decommissioning costs by approximately \$35 million, for a total of \$362.8 million.
- With respect to Zion Units 1 and 2, the cost estimates reflect increased certainty in the nature and scope of required radiological decommissioning made possible after the permanent cessation of nuclear generation operations at that station. As the Commission is aware, the enactment of the Rate Relief Law caused ComEd to assess the economic value of Zion Station in a deregulated market, especially given the condition of the station's steam generator equipment which would have had to be replaced to permit continued reliable operations, and determined to retire the station in 1998. ComEd Ex. 9 (Lyster Direct), p. 9, Docket 99-0115. Based upon detailed system inspections conducted after the shutdown, including assessment of secondary-side steam generator equipment, TLG concluded that the costs of decommissioning Zion Unit 1 would be \$406.6 million in 1996 dollars and that the cost of decommissioning Zion Unit 2 would be \$497.7 million. ComEd Ex. 1 (LaGuardia Direct) at 11, 14-15, Sch. TSL-1, Docket 99-0115; ComEd Ex. 1 (LaGuardia Direct) at 8, Sch. TSL-1.

No party presented any evidence in the present proceeding, or in Docket 99-0115, that the cost of decommissioning Zion, or any other station, would be lower than estimated by TLG. On the contrary, Mr. Biewald testified that "I don't have a reason to dispute the company's estimate" for Zion decommissioning costs. Biewald, Tr. 243, line 22 – 244, line 2, Docket 99-0115.

Moreover, the record shows that the pending Unicom-PECO merger will not provide any significant "economies of scale" or "synergies and efficiencies" that would substantially reduce decommissioning costs. The cost estimates here already are based on ComEd's ownership of thirteen nuclear plants and maximum efficiency in the decommissioning process. Mr.

LaGuardia specifically considered whether the Unicom-PECO merger would reduce costs of decommissioning, and explained that because decommissioning activities are so labor intensive, the merger would not be expected to produce cost reductions for decommissioning. LaGuardia, Tr. 469.

C. ComEd's Non-Radiological Decommissioning Cost Estimates Are Reasonable

ComEd presented a thorough study prepared by TLG of the costs of non-radiological decommissioning of ComEd's thirteen nuclear units. TSL-9. Non-radiological decommissioning involves "demolition" of station structures that are not designated for future use after the highly destructive radiological decommissioning process is completed. TSL-9, p. v; ComEd Ex. 13 (Thayer Rebuttal) at 4, 8; ComEd Ex. 10 (LaGuardia Rebuttal) at 9. Because radiological decommissioning does not result in the complete dismantlement of "[s]ubstantial portions" of the nuclear stations that are not contaminated, many station facilities remain for disposal during the non-radiological decommissioning process. ComEd Ex. 13 (Thayer Rebuttal) at 3.

As explained by TLG, during the non-radiological phase of decommissioning:

Site structures will be removed to a nominal depth of three feet below the local grade level whenever possible. Foundation grade slabs greater than three feet in thickness will be abandoned in place and covered over with a three-foot layer of backfill. The site will then be graded and stabilized. This study therefore includes removal costs for all outlying structures not deemed suitable for follow-on use by ComEd or others.

TSL-9 at v.

The record overwhelmingly supports the conclusion that TLG's estimate of the cost of non-radiological decommissioning is reasonable. The analysis was conducted using very conservative assumptions designed to assure that the estimate included no expenses for removal

of structures that could be re-used. If there was any possibility that a building or facility might possibly be re-useable, the cost of removing it was excluded from the estimate. Berdelle, Tr. 1104, 1106, Docket No. 99-0115; LaGuardia, Tr. 728-29, 735-36, Docket No. 99-0115. No party presented any evidence in the present proceeding, or in Docket 99-0115, that the cost of the non-radiological decommissioning activities described in the TLG study would be lower than estimated by TLG.

D. The Record Shows That The Costs Of Decommissioning The Stations May Be Higher, But Not Lower, Than The TLG Estimates

While the record is uncontradicted that ComEd's cost estimates are reasonable, and there is no evidence that ComEd's costs will be any lower than those estimated, it is important to note that the actual costs to decommission the Stations may be substantially higher than the estimated costs because of various financial risks. Even though TLG's cost estimates are sophisticated, they cannot account for or eliminate all uncertainty about decommissioning costs that will be incurred decades in the future. Financial risks creating such uncertainty include:

- The risk of greater-than-estimated decommissioning costs due to unreimbursed spent fuel storage expenses;
- The risk of unavailability and escalating price of low-level radioactive waste disposal;
- The risk of expanded decommissioning work scope;
- The risk of modified or reinterpreted governing regulations;
- The risk of a faster rate of general inflation than anticipated; and
- Poorer-than-expected investment performance.

ComEd Ex. 4 (Speck Direct) at 9-18.

The risks of cost overruns due to these causes are discussed elsewhere in this brief. ComEd's proposed recovery in this proceeding is not focused upon obtaining sufficient funds to

cover all these eventualities, but is instead made solely in reference to the estimates of costs prepared by TLG without reference to these factors. Thus, one of the major benefits of ComEd's proposal in this proceeding is to eliminate for ComEd's customers, once and for all, the risk of any cost overruns for these or any other reasons in the future.

III. Escalation Factors

In order to establish an annual dollar amount to be recovered from customers to fund decommissioning costs, it is necessary to compare the estimates of the costs of decommissioning expressed in current year 2000 dollars to the amount that will be needed to fund those decommissioning activities many years in the future when most of the work will be performed. The Commission has approved a formula that is used to convert the current year estimates into future costs based on the best evidence of the rates of escalation in the major components of the costs of decommissioning. Those components are labor or "wages," low level waste burial costs and other decommissioning costs. The funds that will be available to pay this future cost of decommissioning are determined by starting with the present balances in the decommissioning trust funds and adding the investment earnings that are estimated to accrue on those balances over time. The Commission has also approved earnings rates to be used for this purpose. Any difference between the future costs of decommissioning and the projected balances in the trusts must then be funded through annual contributions from ratepayers.

Sections III and IV will address the evidence concerning the decommissioning cost escalation rate and the trust fund earnings rate. As described here, the record establishes that ComEd's proposal provides for recovery of far less than the amount needed to close the gap between the future cost of decommissioning and the amounts that will be available in the trusts. That difference, and the cost of any additional increases in decommissioning costs, will have to

be paid by Genco. In the very unlikely event that more money is available than is needed, the surplus will be returned to ratepayers.

A. Rate Components Generally

Under ComEd's Rider 31, the components used to determine the decommissioning cost escalation rate and the weights to be given to each component were established by the Commission in Docket 97-0110. The escalation rate for "wages" is based on an employment cost projection by RFA, a nationally recognized firm, and receives a weighting of 37%. The escalation rate for "other decommissioning costs" is based on an estimate of the Consumer Price Index by RFA, and receives a weighting of 33%. Finally, the escalation rate for waste burial costs is based on costs reported on the tables in Appendix B of the NRC's NUREG 1307 (excluding the South Carolina Low Level Waste Disposal Tax) for the Barnwell facility, and receives a weight of 30%.

In Docket 99-0115, ComEd and Staff agreed that non-radiological decommissioning costs of \$515 million in 1996 dollars should be included in the decommissioning cost estimates. Inclusion of these costs, which fall into the "wages" and "other decommissioning costs" categories, and certain other adjustments, caused ComEd and Staff to recommend that the Commission approve new weightings for the escalation formula. The new weightings would have been wages (40.3%), other decommissioning costs (34.8%) and waste burial costs (24.9%). Because no order has been entered in Docket 99-0115, the new formula weights reflecting the inclusion of non-radiological decommissioning expenses have not yet been approved by the Commission.

B. Low Level Waste Escalation Rate

The low level waste burial escalation rate calculated using the methodology approved by the Commission in Docket 97-0110, which is based on the average annual rate of escalation for the most recent three years at the Barnwell facility, is 22.44%. ComEd Ex. 8 (Berdelle Rebuttal) at 7. Although the Commission's formula focuses on a three-year period, the escalation in low level waste burial costs at the Barnwell facility over longer periods of time confirms that low level waste burial cost increases will far outpace the general rate of inflation and will continue to drive the costs of decommissioning to higher and higher levels. Staff witness Riley calculated that the 5 and 7-year compound average escalation rates were about 17%. Staff Ex. 2 (Riley Direct) at 9, Table 2.2. Over the past 20 years, the annual escalation in burial costs at the Barnwell facility has been approximately 21%. ComEd Ex. 4 (Speck Direct) at 11.

C. Overall Escalation Rate

The parties have discussed overall escalation rates in two different contexts. First, there has been testimony concerning the actual overall escalation rate determined using the formula weightings proposed by ComEd and Staff in Docket 99-0115, which were premised upon the inclusion of non-radiological decommissioning costs. Escalation rates calculated with these weightings have been discussed both with and without use of the 10% "cap" proposed by Staff on the low-level waste burial escalation rate. Staff Ex. 3 (Riley Direct) Docket 99-0115 at 19. With the "cap," the overall rate is 4.73%. ComEd Cross Ex. 20; Berdelle, Tr. 1138-1139; Riley, Tr. 511-512; Speck, Tr. 368. Without the "cap," the overall rate is 7.81%. ComEd Ex. 8 (Berdelle Rebuttal) at 6. ComEd's proposed \$120.9333 million annual decommissioning cost of service for 2001 through 2006 was based on an overall escalation rate of 4.73% calculated using the weightings proposed by ComEd and Staff in Docket 99-0115 and imposing a 10% cap on the

waste burial escalation rate. ComEd did not oppose use of the capped 4.73% rate in Docket 99-0115 because, under Rider 31, the company had the ability to return each year to the Commission for approval of a higher recovery level to reflect the actual cost escalation rate. Berdelle, Tr. 1138-1139.

On several occasions, the Hearing Examiners asked witnesses what overall escalation rate would be appropriate for use in this proceeding. ComEd's witnesses responded that the 7.81% rate determined based on the formula used in Docket 99-0115 and the actual burial escalation rate is most appropriate. Berdelle, Tr. 1124-1125; Speck, Tr. 369. Use of the 7.81% rate is appropriate because the reason for inquiring about the rate of increase in future decommissioning costs in this case is to assess the advantages of ComEd's proposal for ratepayers. Use of a 7.81% rate does not increase the amount that customers will be required to pay for six years. ComEd has already fixed that rate in arriving at its proposal. The question now is whether ComEd's proposal provides significant protection for ratepayers from higher decommissioning costs that they would otherwise have to pay. For that purpose, the Commission should use the best evidence of the actual cost escalation rate and that evidence supports the 7.81% rate.

The witnesses who answered that a lower cost escalation rate should be used had no reliable evidence on which to base their answers. Only one witness, Mr. Effron, attempted to calculate an overall cost escalation rate. But he admitted that, in making his calculation, he did not comply with the Commission's orders. He (1) used the wrong cost escalation formula, and (2) miscalculated the rate of increase in waste burial costs, including South Carolina taxes, both in violation of the Commission's rulings in Docket 97-0110. Effron, Tr. 928-937. The other witnesses who offered views on the subject merely expressed a preference for a 4.11% rate

(which was not supported by any evidence) or for use of the “capped” 4.73% rate. Riley, Tr. 564-565; Effron, Tr. 941-42; Biewald, Tr. 1422-1423; Schlissel, Tr. 649.

The references by a number of witnesses to a 4.11% overall cost escalation rate highlight the second context in which cost escalation rates have been discussed. In addressing this second context, it is important to focus on where the 4.11% rate comes from, what it is, and what it is not. The 4.11% overall escalation rate does not result from a calculation based on actual escalation rates for the components used in the escalation formula. It is not a rate that any witness could justify by use of the Commission’s cost escalation formula and no witness attempted any such justification. It is not a rate that ComEd believes will be experienced or can be supported by any evidence in this proceeding. ComEd Ex. 8 (Berdelle Rebuttal) at 6-7.

The 4.11% is, simply put, a “plug” number. After ComEd arrived at its decision to propose its six-year, \$120.9333 million decommissioning cost resolution, it prepared the necessary “Attachment B Statement of Assumptions” that must be included in the Commission’s order for federal income tax purposes. The statement of assumptions must include a decommissioning cost escalation rate that, when applied to the TLG cost estimates, will result in the \$120.9333 million six-year funding amount. Working backwards from the \$120.9333 million amount, ComEd simply determined the cost escalation rate that would have to be achieved in order for six years of collections at that rate to fund TLG’s estimate of the costs of decommissioning. ComEd Ex. 8 (Berdelle Rebuttal) at 6-7; Berdelle, Tr. 1075-1077; see also Riley, Tr. 532 (“I think essentially it was intended to be used to show what risk the company was exposing themselves to.”) Hearing Examiner Hilliard correctly noted that the 4.11% rate is nothing but a “pull out number”, Tr. 534, derived by working backward from the \$120.9333

million six-year annual contribution amount used in ComEd's proposal. That is all that the 4.11% rate represents.

As Mr. Berdelle explained in his testimony:

The 4.11% cost escalation rate is not the escalation rate that ComEd believes is likely to be experienced between 2000 and 2035. It is an extremely low cost escalation rate that would have to be achieved in order for the decommissioning trusts to be considered fully funded if the Commission limits future decommissioning collections to \$120.9333 million for six years.

ComEd Ex. 8 (Berdelle Rebuttal) at 7.

Use of a 4.11% overall cost escalation rate to measure whether ComEd's proposal is fair and reasonable, as some of the Intervenor witnesses suggest, is circular reasoning. It involves taking an escalation rate that was "backed into" based on the six-year, proposed \$120.9333 million proposal and then using that rate to test the proposal itself. Because the 4.11% rate is simply derived from the six-year \$120.9333 million contribution amount, it provides no basis for assessing the reasonableness of the proposal. For that purpose, the Commission must refer to an escalation rate supported by evidence of the rates at which wages, burial costs and other expenses of decommissioning have actually escalated. That rate is 7.81%. ComEd Ex. 8 (Berdelle Rebuttal) at 4; Speck, Tr. 369; Berdelle, Tr. 1124-1125; Riley, Tr. 513.

IV. Earnings Rate On Decommissioning Trust Funds

In Docket 97-0110, the Commission approved the use of after-tax trust fund earnings rates of 6.26% for the nontax-qualified trusts and 7.30% for the tax-qualified trusts. These rates were premised upon the Commission's order limiting ComEd's investments in equity securities to 60% of the total market value of the decommissioning trusts.

In Docket 99-0238, ComEd requested authority to increase the limitation on equity investments to 65% of the market value of the trusts. Increasing the equity investment limitation

would avoid the necessity for ComEd to sell appreciated equity securities in the trusts, thereby incurring income tax obligations, merely to remain within the 60% limitation. An increase in the percentage of equity investments in the trusts was also consistent with similar authority granted to Illinois Power and Ameren with respect to decommissioning trusts. ComEd Ex. 11 (Berdelle Direct) at 15-17, Docket 99-0115.

By an order dated July 8, 1999, the Commission granted ComEd's request and raised the equity investment percentage limitation to 65%. Based on the new 65% equity investment limitation, it became necessary to revise the trust fund earnings rates to reflect the increase in higher-return equity investments. The new after-tax trust fund earnings rates for the nontax-qualified trusts is 6.83% and for the tax-qualified trusts is 7.49%. Those rates are appropriate for use in this proceeding, and most of the parties have agreed, assuming an overall after-tax trust fund earnings rate of 7.3%.

V. Power Uprate/License Renewal/Life Extension

ComEd in its decommissioning cost estimates assumed that the nuclear units would operate until the end of their current licenses that have been issued by the NRC. TSL-3 - TSL-8, § 2.1. Decommissioning work would then begin after station operations were ended.

Staff and several Intervenors criticized ComEd for basing its cost estimates on the assumption that the nuclear units would operate only until their current licenses expired and not thereafter. They claimed that the licenses for the units (or at least some of them) would be renewed by the NRC, and that the units would operate for a period of up to twenty additional years. See, e.g., Staff Ex. 2 (Riley Direct) at 8; CUB DT Ex. 1.2 (Schlissel Direct) at 19. They further claimed that this increased period of unit operations would allow greater amounts to accrue in the decommissioning trust funds through increased earnings over that time period, and

the amount needed for decommissioning work at the present time would therefore be reduced. See, e.g., Staff Ex. 2 (Riley Direct) at 8.

ComEd presented L. Joseph Callan, the NRC's former Executive Director of Operations, as its witness to respond to the issues that Staff and the Intervenors had raised about the possibility that the nuclear units will operate beyond their the terms of their current licenses. Mr. Callan was responsible for overseeing the development of the NRC's policies and procedures concerning license renewal. ComEd Ex. 9 (Callan Rebuttal) at 3-4.

Mr. Callan testified that some of the witnesses in this case had incorrectly characterized license renewal "as essentially an NRC 'rubber stamp' which should be counted on by the . . . Commission in this proceeding." Id. at 1. Contrary to the claims of these witnesses, Mr. Callan testified that, based on his extensive experience with the NRC, there were "too many uncertainties" associated with the NRC renewing the licenses of ComEd's nuclear units for the Commission to base its "long range planning" on the presumption that license renewal will occur. Callan, Tr. 844. This is because license renewal at the NRC is a "lengthy, costly and arduous process" in which the NRC considers technical and operational issues, such as "identifying critical long-lived structures and components which are potentially subject to age related degradation." ComEd Ex. 9 (Callan Rebuttal) at 5-6. Given the arduous character of this review and the number of technical issues that could prevent the NRC from renewing a license, Mr. Callan concluded that "there is no assurance that the NRC will approve a license extension for any one of ComEd's units, much less all of them as stated by Mr. Schlissel." Id. at 9.

Even CUB witness Biewald acknowledged that technical issues could impact the possibility of license renewal. In an article he co-authored, he stated that "rates of aging degradation and their safety implications" that impact license renewal "are not well known."

Biewald, Tr. 1410-11. He also acknowledged that "those plants most affected by aging degradation would . . . be less inclined to initiate the license renewal process." Id. at 1411-12. Mr. Biewald did not claim to have studied whether any of ComEd's plants were among those "most affected."

Mr. Callan also testified that with respect to ComEd's Dresden and Quad Cities Stations, the possibility of license renewal was especially uncertain. This was because no boiling water reactor plant of the same vintage and type as Dresden and Quad Cities Stations has received license renewal from the NRC. ComEd Ex. 9 (Callan Rebuttal) at 4. This type of station therefore has "no track record of obtaining license renewal" from the NRC, and an application to extend the license for these stations "would be the subject of careful NRC staff scrutiny, possible intervention and possible hearings before [the NRC's] Atomic Safety and Licensing Board. . . ." Id. at 4-5.

Mr. Callan also explained that it would be unreasonable and inappropriate for a state economic regulator to make policy based upon a presumption of what the NRC, the federal nuclear safety regulator, will do in the future with respect to license renewal. Mr. Callan testified:

The NRC is an independent agency charged with ensuring the safe operation of domestic nuclear plants. No one knows at the present time what specific analysis the NRC will perform of any application filed for ComEd's plants, or what issues may be raised by the NRC or others concerning continued safe operation. No one even knows who will be the NRC commissioners serving at the time that . . . hypothetical license renewal applications are considered. It is therefore fundamentally unreasonable and inappropriate for a state regulatory commission to decide a course of action for its own policy purposes -- especially such an important policy as decommissioning funding -- which presumes what actions a federal safety regulator may or may not take many years in the future.

Id. at 9-10.